

REMARKS

In the Office Action dated December 18, 2002, the drawings were objected to; claims 1-13, 15-19, and 21-31 were rejected under 35 U.S.C. § 102 over U.S. Patent No. 6,377,982 (Rai); claims 14, 32, and 33 were rejected under § 103 over Rai in view of U.S. Patent No. 5,740,361 (Brown); claim 20 was rejected under § 103 over Rai in view of U.S. Patent No. 6,347,079 (Stephens).

OBJECTIONS TO DRAWINGS

Figures 1 and 2 have been amended to address the objections.

REJECTIONS UNDER 35 U.S.C. §§ 102 & 103

As amended, independent claim 1 is allowable over Rai. Rai does not disclose an accounting unit that has an entry indicating a quality of service and another entry indicating mobility management. The Office Action pointed to column 5, lines 18-30, of Rai that mention support for enhanced services such as quality of service. However, there is no teaching in Rai that its accounting packets contain an entry for quality of service. *See* Rai, cols. 29-30. There is also no teaching in Rai that its accounting packets contain another entry to indicate mobility management. Therefore, Rai does not disclose the subject matter of claim 1.

With respect to independent claim 16, Rai fails to disclose a unit of accounting information having an entry indicating a quality of service provided over a packet-based network. With respect to claim 21, Rai fails to disclose an accounting unit having an entry indicating a quality of service used by a node.

With respect to independent claim 29, Rai fails to disclose an accounting unit that includes an entry to identify an amount of data communicated and another entry identifying mobility management.

With respect to independent claim 32, Rai fails to disclose a storage device comprising a data structure having an entry indicating quality of service provided over a packet-based network.

In view of the foregoing, all claims are in condition for allowance, which action is respectfully requested. The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 20-1504 (NRT.0013US).

Respectfully submitted,

Date: _____

2-28-03

UNITED STATES PATENT AND TRADEMARK OFFICE

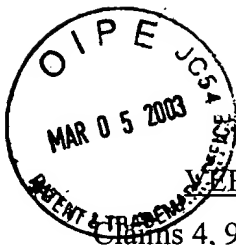


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PATENT TO ADELMARK OFFICE

A handwritten signature in black ink, appearing to read 'Dan C. Hu', written over a horizontal line.

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VERSION WITH MARKINGS TO INDICATE CHANGES

Claims 4, 9-15, and 23 are cancelled. New claims 34-39 have been added.

Amend the following claims where indicated (un-amended claims in smaller font):

- 1 1. (Amended) A method of accounting for services provided over a packet-
2 based network, comprising:
3 determining a type of service used over the network;
4 monitoring usage of the service; and
5 collecting accounting information based on the type of service and usage
6 of the service, wherein collecting the accounting information includes compiling the
7 accounting information into an accounting unit,
8 wherein the accounting unit has a first entry to indicate a quality of service
9 provided over the packet-based network, and a second entry to indicate mobility
10 management.

- 1 2. (Amended) The method of claim 1, wherein the determining, monitoring,
2 and collecting are performed in a first entity, the method further comprising transmitting,
3 from the first entity, the [collected] accounting [information]unit to at least another entity.

- 1 3. The method of claim 2, further comprising assigning an identifier with the collected
2 accounting information that is common between the first entity and the at least one other entity.

- 1 5. (Amended) The method of claim [4]1, further comprising using an
2 accounting unit having a common format for convenient exchange between entities.

- 1 6. The method of claim 4, further comprising using an accounting unit including a traffic
2 matrix segment.

- 1 7. (Amended) The method of claim 1, wherein determining the type of
2 service includes determining one of a plurality of service types, wherein collecting the
3 accounting information comprises collecting an additional entry assigned a value to
4 indicate a type of service.

1 8. The method of claim 7, wherein determining one of the plurality of service types include
2 determining one of real-time communications and at least another type of service.

1 16. (Amended) A method of accounting for services provided over a packet-
2 based network, comprising:
3 communicating [units]a unit of accounting information carrying
4 information regarding usage of the packet-based network by a terminal, the unit of
5 accounting information having a predetermined format capable of being exchanged
6 between a plurality of entities; and
7 assigning values to entries in [each]the unit of accounting information
8 based on usage, the unit including a first entry indicating a [type]quality of service
9 provided over the [data]packet-based network and a second entry containing a network
10 access identifier of the terminal to uniquely identify the terminal.

1 17. (Amended) The method of claim 16, wherein assigning values to entries
2 further includes assigning a value to an additional entry indicating a [quality]type of
3 service.

1 18. The method of claim 17, wherein assigning values to entries further includes assigning
2 values to additional entries including entries indicating usage of a radio interface, indicating usage of a
3 visited network, indicating usage of mobility management, and indicating an amount of data transferred.

1 19. The method of claim 18, wherein assigning values to entries further includes assigning a
2 value to an additional entry indicating erroneous termination of communications.

1 20. The method of claim 19, wherein assigning values to entries further includes assigning a
2 value to an additional entry indicating an amount of discarded data.

1 21. (Amended) A system capable of being coupled to a packet-based network,
2 comprising:

3 a [unit]controller to collect usage information based on a service used by a
4 node on the packet-based network; and

5 a storage device containing an accounting unit in which the usage
6 information is collected, the accounting unit including a plurality of entries to identify
7 usage elements from which accounting may be derived, the entries comprising a first
8 entry to indicate a quality of service used by the node and a second entry to indicate
9 usage of mobility management.

1 22. The system of claim 21, wherein the entries of the accounting unit include an entry
2 identifying a type of service used.

1 24. (Amended) The system of claim 21, wherein the entries of the accounting
2 unit [include]further comprise entries indicating elements used by a mobile node,
3 including mobility management, usage of a radio interface, and usage of a visited
4 network.

1 25. The system of claim 21, wherein the accounting unit includes a traffic matrix segment.

1 26. (Amended) The system of claim 21, wherein the accounting unit is
2 according to a predetermined format, the [system further including a unit] controller to
3 further communicate the accounting unit to another entity.

1 27. (Amended) [A]The system [for performing accounting for usage of
2 services on a packet-based network,]of claim 21, further comprising:
3 an accounting processor adapted to receive accounting units from at least
4 one other entity[; and
5 a storage device to collect the accounting units, the accounting units
6 having a predetermined format and including information indicating at least a type of
7 service used over the network].

1 28. The system of claim 27, wherein the accounting processor is adapted to generate billing
2 to a subscriber based on one or more of the accounting units.

1 29. (Amended) An article including one or more machine-readable storage
2 media containing instructions for accounting for services used on a packet-based data
3 network, the instructions when executed causing a system to:
4 determine usage elements associated with each service, the usage elements
5 including a service type, [and] amount of data communicated, and mobility management;
6 and
7 collect[ing] accounting units each including entries identifying the usage
8 elements.

1 30. (Amended) The article of claim 29, wherein the one or more storage
2 media contain instructions that when executed cause[s] the system to further
3 communicate the accounting units to another entity.

1 31. (Amended) A computer data signal embodied in a carrier wave comprising
2 one or more code segments containing instructions for accounting for services used on a
3 packet-based data network, the instructions when executed causing a system to:
4 receive accounting units from at least another entity, each accounting unit
5 containing a first entry identifying a quality of service, a second entry identifying a
6 terminal the accounting unit is associated with, and a third entry indicating usage of
7 mobility management;
8 determine, from each accounting unit, usage of a service on the packet-
9 based network; and
10 [charging]charge at least a subscriber for the usage of the service.

1 32. (Amended) A storage device for storing data for access by one or more
2 software routines being executed on a system, comprising:
3 a data structure stored in the storage device and including a plurality of
4 entries, the entries including a first field indicating a [type]quality of service provided

5 over a packet-based network, a second field indicating if the service is chargeable, and a
6 third field including an identifier identifying a node using the service.

1 33. The storage device of claim 32, wherein the data structure further includes a field
2 indicating if mobility management is provided for the node, a field indicating usage of a radio interface by
3 the node, and a field indicating usage of a visited network by the node.

1 34. (New) The method of claim 17, wherein assigning a value to the
2 additional entry comprises assigning one of plural values corresponding to plural types of
3 service.

1 35. (New) The method of claim 34, wherein the plural types of service
2 comprise real-time communications and at least another type of service.

1 36. (New) The method of claim 16, wherein communicating the unit of
2 accounting information comprises communicating a traffic matrix segment having a
3 header and plural rows, each row containing accounting information associated with a
4 session having a given time duration.

1 37. (New) The method of claim 16, wherein assigning values to entries further
2 includes assigning values to additional entries containing source and destination network
3 addresses.

1 38. (New) The method of claim 16, further comprising monitoring usage of
2 services on the packet-based network with an accounting meter, wherein assigning values
3 to the entries is performed by the accounting meter.

1 39. (New) The article of claim 29, wherein the usage elements further
2 comprise quality of service, usage of air interface, and a network access identifier.



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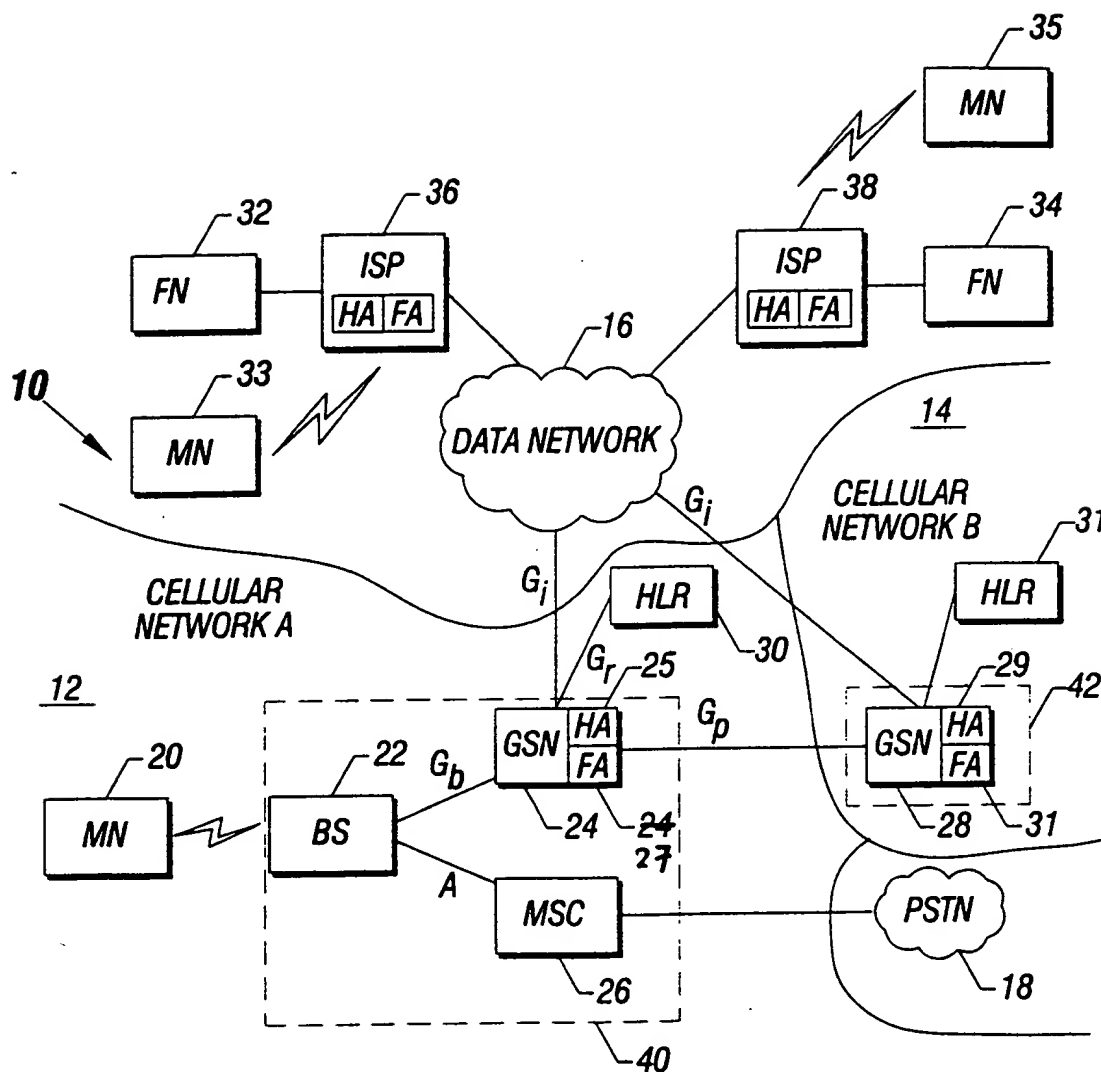


FIG. 1



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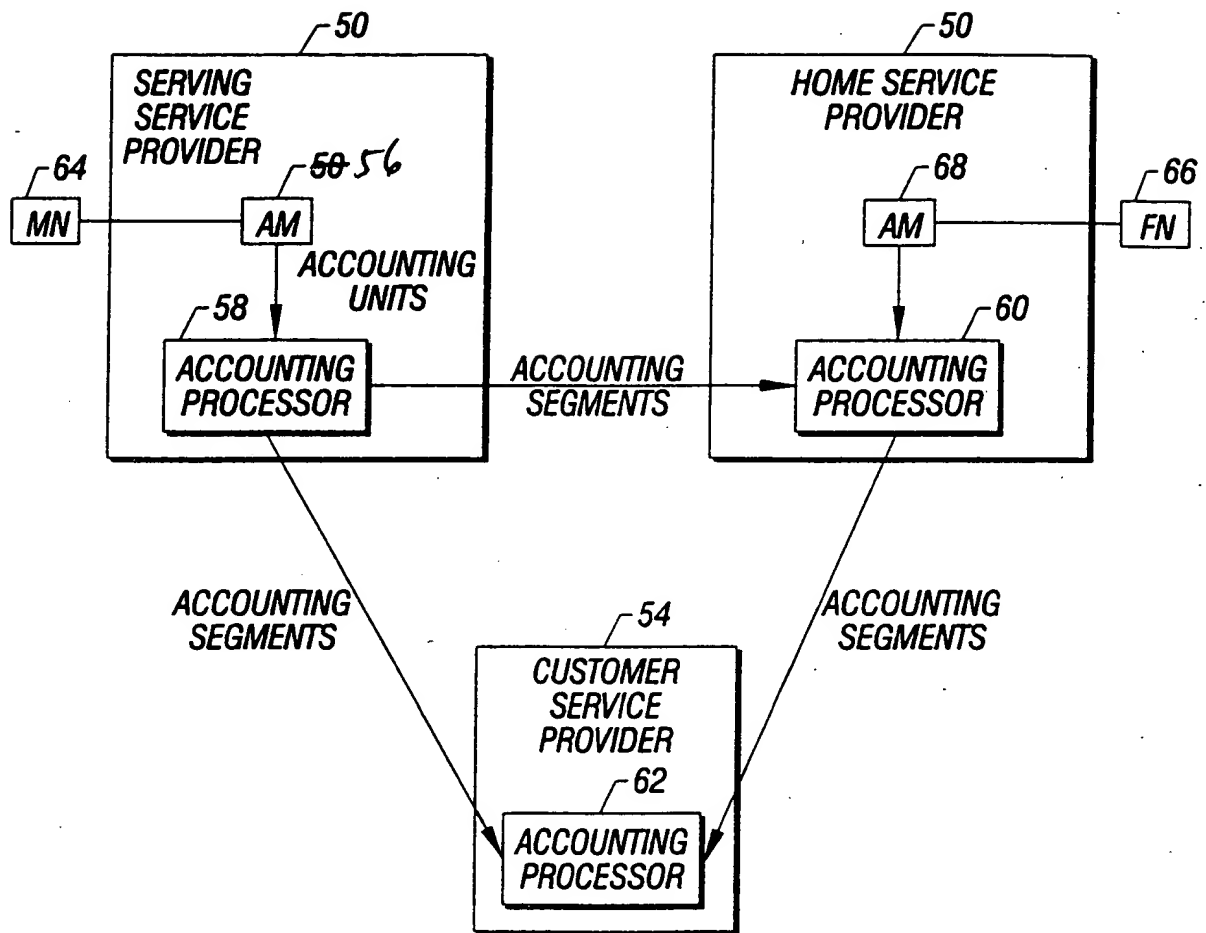


FIG. 2